Servitization and service recovery: Can you be too close for comfort?

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Servitization and service recovery: Can you be too close for comfort?

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Abstract

What happens when 'servitized' operations and maintenance arrangements fail? Although we know that B2C service failures can lead customers to terminate the relationship, we know very little about failures in servitization. Exceptional external event such as the Arab Spring can cause unexpected disruptions in B2B settings. Presenting evidence from two industrial cases, we found that the closeness of the provider-customer relationship positively affects the ability to recover service failures. However, this relationship can also lead to higher escalation of the service failure. Thus, we contribute to the literature on service failure in the B2B context of servitization.

Keywords: service failure, servitization, case study

Introduction

What happens when 'servitized' operations and maintenance arrangements fail; such that the provider is unable to deliver the service to agreed expectations and on time? This is an important issue because although we know that B2C service failures can lead customers to terminate the relationship and switch to a competitor (Bejou & Palmer 1998), we know very little about the cause, consequences and control (Lewis 2003) of failure in servitization (Rosenzweig et al. 2011). Do the same consequences hold when B2B service operations are typically characterised by reciprocal processes where provider and customer interact to solve challenging circumstances (Bejou & Palmer 1998).

To investigate this phenomenon, we decided to explore what happens when operations and maintenance arrangements are disrupted by exceptional external events such as the 2014 Hong Kong protests or the Arab Spring starting in January 2010. The reason for this decision was that such challenging circumstances are themselves under-investigated in the OM field but more specifically this gave us settings where the causal events were difficult to dispute, arguably unforeseeable and lay beyond the control of either party. This allowed us to focus in on the relationship between customer and service provider and the nature of the recovery efforts themselves.

This paper aims at answering the following research question: How do characteristics of inter-organisational relationships in operations and maintenance services impact and

develop in challenging conditions? Characterising the relationships between service provider and customer, we analyse how these characteristics enable companies engaged in O&M services to overcome the challenging circumstances posed by the Arab Spring. Based on a multiple case approach, we present evidence from one European manufacturing company collaborating with an Egyptian O&M provider and two of their customers. Comparing their relationships and the impact of challenging conditions, the cases demonstrate how different levels of "closeness" between O&M provider and customer can impact the ability to recover from service failure but also the *magnitude* of the preceding service failure.

Background

Servitization

Services can be conceptualised as activities or processes where the service provider, customer and the service issue are combined in a triangular relationship (Araujo & Spring 2006). Many manufacturing companies include operations and maintenance (O&M) services in their offerings to guarantee or improve the value their products produce for their customers. As such, many O&M services include a business-to-business (B2B) relationship rather than a business-to-consumer (B2C). In B2B exchanges, long-term relationships including contractual relations and joint ownership of the outcome are of key importance. This means that the transactions in B2B exchanges are planned and administered rather than on an ad-hoc basis. Commitment in the exchange partner's belief that *"an ongoing relationship with another is so important as to warrant maximum efforts at maintaining it"* (Bejou & Palmer 1998, p.10) is one of the core issues in O&M services.

The service encounter, often also termed as "the moment of truth" as customer and provider interaction for the delivery of (part of) the service (Lewis & Brown 2012), is embedded in a series of exchanges (Tax et al. 2013). This highlights the need for analysing the relationship between service provider and customer as substantially different insights emerge in comparison to individual service encounters (Kreye et al. 2015). In O&M services, the customer typically has multiple touch points within the provider organisation highlighting the multifaceted nature of the service relationship and its impact on the service experience and quality (Tax et al. 2013). Thus, an O&M service provider needs to have the capability of integrating the decisions in the different channels to deliver the outcome of the service package to the customer, meaning that collaboration is a vital capability for these organisations.

Service failure and recovery

Challenging conditions can often create service failures, i.e. an inability of the service provider to deliver the agreed service to expectations and on time (Rosenzweig et al. 2011). Service failures can have significant negative effects as customers may choose to terminate the involvement and switch to a competitor leading to lower market share and lower profitability (Bejou & Palmer 1998). Of importance is the severity of failure which defines *the "magnitude of loss that customers experience due to the failure"* (Hess Jr. et al. 2003, p.132). In addition, they can cause different reactions with the customer such as mere annoyance or the feeling of victimization and may thus need different levels of recovery (Bell & Zemke 1987).

Service recovery refers to the actions that are performed in response to a service failure (McCollough et al. 2000). Existing analyses of the phenomenon typically apply a provider-centric view of service failure and the necessary recovery activities as compensation for incurred losses (Anderson et al. 2009). The reason for this is the

predominant focus on B2C services that typically have a transaction characteristic. However, in B2B services, operations are typically characterised by reciprocal processes meaning that provider and customer interact to solve the challenging circumstances (Bejou & Palmer 1998). Thus, the quality of the relationship between customer and provider affects the response to service failures (Hess Jr. et al. 2003) and a more collaborative understanding of recovering from service failures needs to be applied in O&M services. This paper addresses this issue by investigating the impact of the relationship between customer and service provider on the failure impact and recovery efforts in challenging circumstances.

Method

Two cases are presented focusing on triadic relationships between one manufacturer, an O&M provider and two plant owners, referred to here as Owners A and B. The plant manufacturer was a European manufacturer of equipment for chemical plants; the O&M provider was an Egyptian company providing through-life support. Both cases were set in Egypt which allowed the provider to establish the service organisation with Owner A and expand it with Owner B. At the point of data collection, the two case studies different in two main characteristics. First, the agreement with Owner A had been enduring longer than the one with Owner B as the operation period for the plants started in 2008 and 2010 respectively. Second, Owner A was a partly European owned company with prior experience in the chemical business and existing plants in Europe. In contrast, Owner B was a completely Egyptian company and had no prior experience in the chemical industry. Figure 1 depicts the case set-up.

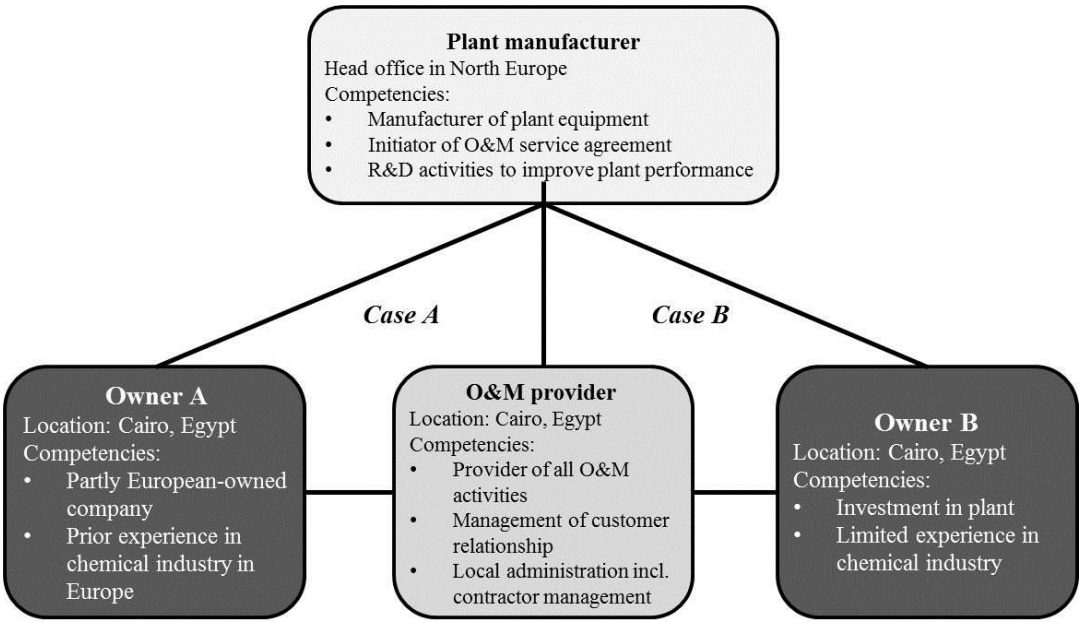

Figure 1: Overview of two cases with triadic relationships between the Plant manufacturer, the O&M provider and the two plant owners

The unit of analysis is the B2B relationship to provide and receive the O&M service. The empirical data were gathered via multiple sources of evidence over a period of 13 months. A total of 62 semi-structured interviews were conducted (28 for Case A, 34 for Case B), recorded and transcribed. The interviewees were selected from the manufacturer, O&M provider and the two owners and were chosen based on their

involvement in the service contracts and engagement with the collaboration partners. Different levels in terms of management and operational engagement were included.

The interviews followed a semi-structured approach. The discussed topics included the business strategy and the business environment globally as well as in Egypt specifically, the contract negotiations and the relationships after contract signature and implementation. The interviews were conducted in employees' offices and designated meetings rooms in the companies. The interviews varied in length between 30 and 90 minutes.

Findings

Provider-customer relationships

Both contracts included similar levels of engagement between service provider and owner as the Vice President of O&M (Plant manufacturer) explained: *"We staff the plant, we run the plant, we manage the plant including spare parts and consumables, and services. (…) So the plant becomes like a black box for the customer."* Thus, the core service activities were similar for both owners.

The findings showed that O&M services require a generally close relationship between O&M provider and customer. However, within this spectrum, the customers had varying perceptions of their relationship with the O&M provider. The two owners differed in their level of knowledge about the chemical industry as Owner A had prior experience (albeit in Europe) while Owner B was a new entry into the market. This impacted the relationships as detailed below.

The relationship with Owner A was characterised by high levels of trust as the Vice President of O&M explained: *"[Owner A] was actually very collaborative and helped us a lot to get this set up."* Further, the partners recognised the high level of interdependence as the Head of O&M Cement characterised the O&M business as follows: *"It is like getting married in many respects. And the cost of the divorce is quite high."* Owner A further increased this interdependence throughout the relationships via installing additional equipment. The service provider and Owner A further engaged in high levels of formal and informal communications. The National manager 1 (O&M provider) summarised this as follows: *"I call it building the goodwill account."*

In contrast, the relationship with Owner B was characterised by lower levels of trust as the Head of O&M Cement (Plant manufacturer) explained: *"we do not feel that we completely have the same, open, honest, transparent corporation that we have with [Owner A]"*. The communications between employees of the service provider and Owner B were restricted to using formal channels. The Plant manager (O&M provider) explained: "*they ask from the very beginning to keep the communication protocol. [For example,] all the [financial] communications have to be made via either me or the technical director. So, there are not a lot of people talking together."*

Service failure

The Arab Spring in Egypt starting in January 2011 was characterised by violent and non-violent demonstrations including ousting of the government causing political and economic instability. Figure 2 depicts a chronological outline of the main events of the Arab Spring in Egypt. This revolution formed challenging conditions for the continuous chemical production and provision of O&M services.

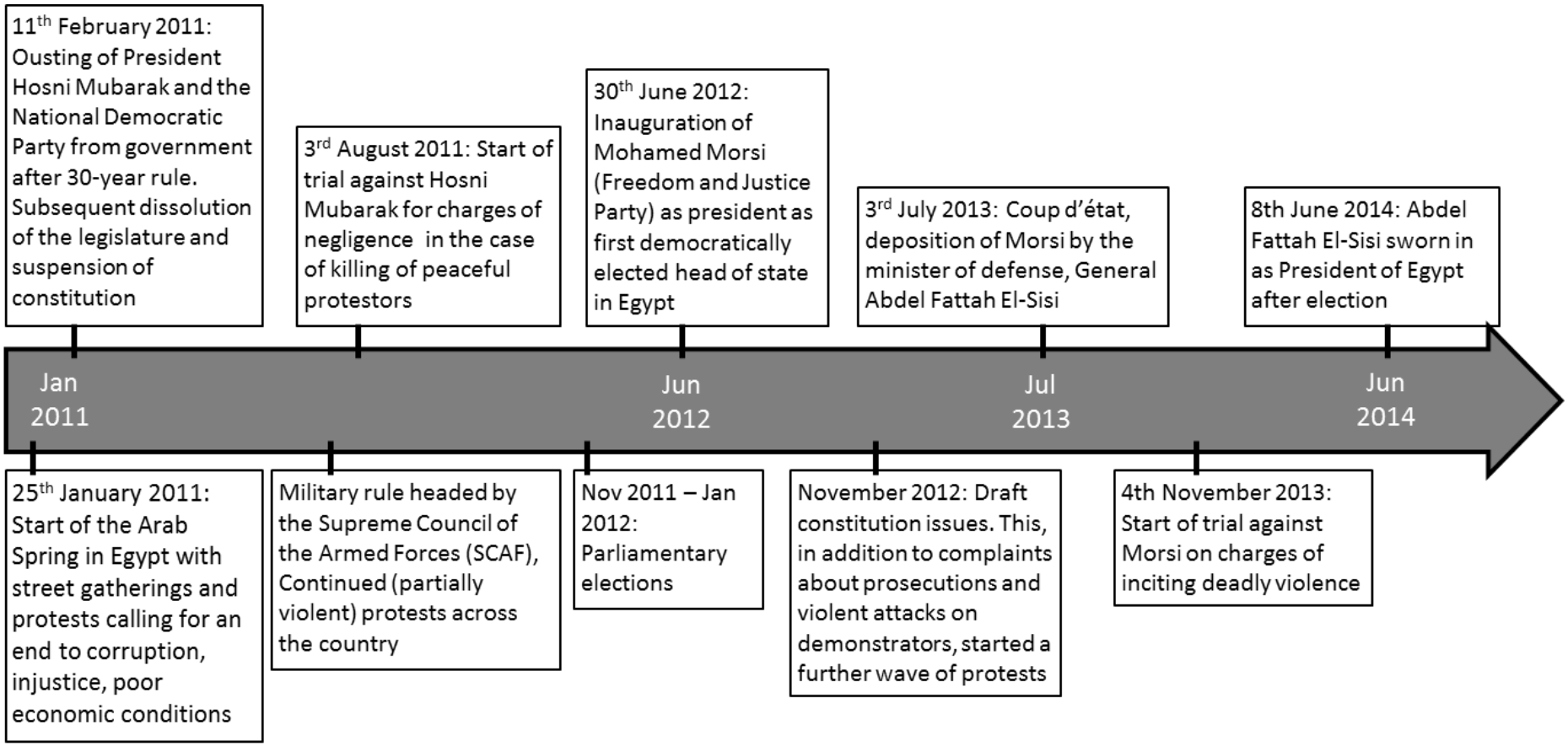

Figure 2: Timeline of main events of the Arab Spring in Egypt from January 2011 until 2014

The Arab Spring brought various challenges to the O&M operation, specifically in terms of staff availability and security. The difficulty arose from the location of the plants in the desert far from residential areas which means long transport times and increased safety risks. An additional challenge arose during curfew when people were not allowed outside of their homes between 5pm and 7am. The Operations manager (O&M provider) explained the situation they faced in 2011: "*we get some regimen so we can avoid the time of the curfew to enable people to come to work."*

Another challenge concerned the production as the inset and duration of the revolution caused significant problems in the availability of resources, specifically gas and electricity, as the Operations manager (O&M provider) explained: *"the second half of 2012, Egypt started to face a problem with energy resources. The client is responsible to provide the energy and there is no alternative way to burn any alternate fuel in the plant."* This caused significant disruptions in the service provision.

The two plant owners reacted to the situation in different ways as the Performance manager (Plant manufacturer) summarised: "*at [Owner A plant], they have claimed force majeure where at [Owner B plant], they still continue the contract as normal."* This means that the O&M provider received no compensation for the reduced production from Owner A due to the *"exceptional event or circumstance (…) which is beyond a Party's control"* (contract p.38). This means that the O&M provider was making a loss. In contrast, they did receive compensation from Owner B. Thus, the magnitude of the service failure was higher for Owner A.

Recovery in the short-term

To solve the situation, the collaborators took various actions that impacted their operations in the short term and continued production. Specifically when the second revolution in June 2013 could be anticipated, the O&M provider put a contingency plan in place. The Plant manager (Owner A) acknowledged these efforts: "*They operated the plant under very difficult conditions. We were one of two plants (in all Egypt) not to stop in 2011. We operated even on bad days."* The National manager 1 (O&M provider) explained the situation they faced in 2011: *"Most of the others had to stop either because of the Egyptian staff. They were protesting and before they could not get to the plant. (…) The logistic system broke down but our plants kept running during the entire period."*

The force majeure situation with Owner A led the O&M Provider followed various cost reduction strategies as the Operations director explained: *"looking at our budget we can move some costs to the next year. (…) Also, we use some technical staff on other sites."* In addition, some non-core activities were sub-contracted as the Operations manager (O&M provider) described: "*We hire a third party for the housekeeping and cleaning and we had to reduce this service. (…) So now the level of the housekeeping is not as it should. But we started to negotiate with [Owner A] for support."* Owner A acknowledged the difficulties as the Chief operation officer (Owner A) highlighted "*The force majeure issue penalised [the O&M provider] a lot."* Thus, they were willing to enter negotiations regarding possible solution, specifically in the long term.

The situation with Owner B was easier to manage in the short-term as no force majeure had been entered. The Head of O&M Cement (Plant manufacturer) explained: "we have not cut down on any costs on that contract." However, due to the longevity of the revolution and raw-material shortage, joint efforts were taken as explained by the Plant manager (O&M provider): *"we made an agreement about compensation in the very beginning and applied it since 2014."*

Recovery in the long-term

Long-term actions required strategic decisions and investments by the plant owners. The overall incentives to do so were similar between Owners A and B as both made losses with the reduced availability of gas for operating the plant. However, the taken actions differed and reflected their ability and willingness to make quick, high-risk decisions and implement these.

Owner A invested in a new technology as they installed a coal mill to provide the necessary energy for production. The decision-making process was relatively short and was started by an informal comment as the Chief operation officer (Owner A) explained: "*Then [National manager 1, O&M provider] suggested thinking about coal. And this has been crucial for our business now."* The investment is substantial as the innovation costs were *"approximately €11 million"* (Operations manager, O&M provider). Additionally, the success of the process innovation was not guaranteed as coal mills were not permitted for use at the time of decision and a change in this policy was far from certain. The Chief operations officer (Owner A) explained the reasoning behind the decision:

> *"We had two reasons to go ahead. The first one was that we knew we were choking [the O&M provider] with force majeure. (…) So we showed that we would do our best to provide fuel, also to prevent future legal actions. (…) The second reason was that we were selfish about the availability and the continued production. (…) We decided to help them (O&M provider) as we wanted them to stay"*

In contrast, Owner B made decisions slower and was less willing to take risks. Their main objective was the profitability of their investment rather than the operability of the plant and increased cement prices thus buffered the need to make changes in the production. The Production manager (O&M provider) summarised the attitude of Owner B: *"They think week-by-week or month-by-month."* Thus, decisions and specifically investment decisions were made slowly as the Operations director (O&M provider) highlighted *"When we say that we need to agree something, it takes more than two or three meetings to finalise."* This assessment was reciprocated by Owner B's management staff as explained by their Operations manager: *"(one issue is) not making good decisions, trying to expose the other side."*

As a result, Owner A had invested in technology utilising other raw materials as an energy source. They had a working coal mill installed and ready to use by the time policy changed about their use came into action in Egypt in summer 2014 and could swiftly resume their production. After this, their production performed at 80% of the contractually agreed target. In contrast, Owner B only performed at 65% as they took the decision to install a coal mill only after the policy change. At the time of data collection, they were still in purchasing negotiations with the Plant manufacturer. The Head of Technical O&M explained the difference between Owners A and B as follows: *"It seems like a more dedicate client and also he is much faster at making decisions. When he wants something then he goes for it. He doesn't need to discuss it day in and day out."*

Discussion

In this section, existing insights from theory and the literature are combined with the case findings to answer the guiding research question: How do characteristics of inter-organisational relationships in operations and maintenance services impact and develop in challenging conditions?

Servitization relationships

In line with Dwyer et al.'s (1987) marriage analogy, there was evidence that O&M services require a generally close relationship between O&M provider and customer. However, the findings show that the customer can perceive this relationship differently from the provider. As such, the relationship with Owner A was characterised by high levels of trust, reciprocal strong integrity, recognition of high interdependence and high levels of formal and informal communications. In contrast, the relationship with Owner B was characterised by lower levels of trust especially from Owner B to the intentions of the Plant manufacturer and O&M provider, lower levels of integrity, high levels of interdependence, restricted formal communications.

In general, these findings compare to Macneil's (1980) description of process characteristics in relational exchanges. These include high levels of interdependence, the need to cooperate through sharing of benefits and burdens, and dependence on the exchange partners. However, one surprising finding was the restriction of informal communications with Owner B as most literature in the field highlights the importance of informal and relational exchange in services and even describe it as a naturally occurring element in B2B relationships (Kreye et al. 2015; Dwyer et al. 1987). The findings suggest that current theory regarding the nature of B2B relationships and role of social exchanges within these may not hold in the context of international and cross-cultural B2B settings such as the European plant manufacturer and Egyptian customer of the presented cases.

Furthermore, the case findings present complementing insights to current discussions in the literature regarding the formation of B2B relationships. For example, Wilkinson et al. (2005) highlight the need for "sufficient similarities" between cooperating organisations in terms of resources and capabilities. The case findings suggest that when partners do have the strong similarities in these aspects, they may be able to establish a closer relationship as they are *"able to mesh one's own operations with theirs"* (Wilkinson et al. 2005, p.670). In contrast, if these similarities are not present, the relationship is less close as the existing differences have to be overcome and a common ground established before for example trust can be built. Thus, the findings suggest that similarities in terms of resources and capabilities are not necessities for the formation of B2B relationships but can have form predictors as to the level and form of relationship the companies will form.

Service failure and O&M relationships

The case findings highlight that the closeness of a B2B relationship affects the ability to recover service failures in challenging conditions. This can be linked to Dwyer et al.'s (1987) description that different levels of *"joint efforts [are] related to performance and planning over time"* (p.13). The close relationship with Owner A meant that the difficulties posed by the Arab Spring could be tackled offensively leading to a quick recovery from disruptions to the O&M service and production with a current production rate at 80% of plant capacity. In contrast, the less close relationship with Owner B led to a slower recovery process where main factors causing disruption in the production were still present. This confirms suggestions in the literature that close relationship are core to producing collaborative success (Bejou & Palmer 1998; Kreye et al. 2015) and realising relational rents (Mesquita et al. 2008).

The surprising finding in the presented cases was that a closer relationship also led to a higher *escalation* of the challenging circumstances in the service failure. As such, the close relationship with Owner A resulted in a force majeure while the less close relationship with Owner B resulted in a continuation of the O&M service throughout the

disruptions of the Arab Spring despite similar environmental settings and contractual arrangements. In other words, under challenging circumstances the closeness of the B2B relationship led to higher magnitudes of the service failure. One explanation for this phenomenon could be that a close relationship in O&M services serves as a basis for observation of the continuous progress of the service quality and future solutions to ensure operability. As such, the perspective in the relationship with Owner A was on the mid-term development of the O&M service and ensuring of service quality, while the perspective of Owner B was pre-dominantly on a week-by-week basis. In challenging conditions, this can lead to the observed differences in predicting the impact of possible disruptions and identifying and implementing solutions.

In addition, the findings showed the importance of the customer's organisational capabilities to recover service failures in B2B settings. Existing literature typically highlights the service provider's responsibility for the recovery (Anderson et al. 2009) and has not included the customer in these analyses. In B2B settings, the findings suggest that in the long-term, the customer's capabilities, specifically for making rapid and informed decisions and implementing these with the service provider, is a key factor in the recovery process. For the presented case, these decision capabilities included the risk attitude and management of the decision makers. Decisions on suitable steps for the recovery process were made in conjunction with the service provider and a close relationship including mutual trust supported this process.

Challenging conditions and O&M relationships

The challenging conditions and the disruptions they caused for the O&M service impacted further the B2B relationships in the presented cases. In line with suggestions by e.g. Tax et al. (2013), the O&M provider fragmented their service activities for the purpose of outsourcing non-core activities. This helped during the challenging conditions as *"non-essential work was scaled down"* (National manager 1, O&M provider). Due to the reduced production on the plants, some of these activities could be insourced during the Arab Spring which reduced the risk of firing staff. *"People still went to work and continued to do what was necessary to keep the plant running"* (National manager 1, O&M provider). Thus, the service fragmentation created flexibility in the service operations which could be used to manage the impact of reduced production caused by supply uncertainty.

In contrast, there was no disruptive change in the relationship with Owner B. Their evaluation of the service quality related to their original expectations from when the contract was signed as explained by the Operations and Process manager (Owner B) *"A lot more was expected due to the international support [from Plant manufacturer]."* In summary, the magnitude of service failure impacts the relationship in O&M service which is in line with existing theory in the field (Hess Jr. et al. 2003; McCollough et al. 2000).

Conclusions

The presented exploratory study set out to investigate the impact of B2B relationships of O&M services in challenging conditions such as the Arab Spring. The rich description and insights presented in this paper offer various points for theoretical generalisation and contribution. Even with a single O&M provider and two customers, the nature of international B2B relationships could be characterised and the impact of the level of closeness in these relationships on the magnitude of service failures and recovery processes could be explained. The cases showed that recoveries from service failures require different operations in a B2B setting than in a B2C setting highlighted

in the literature as the customers' capabilities impact the success of such operations. The study furthermore showed the potential threat of close B2B relationship in challenging circumstances as this can increase the magnitude of the service failure in the mid-term. However, in the long-term these threats seem to be mitigated by the positive effects of close relationships for the joint recovery of service failures caused by the challenging circumstances.

The presented research contributes to the literature in service failure and recovery and servitization. Highlighting the relationship between service provider and customer, the *closeness* of this relationship affects the magnitude of service failures and recovery. Thus, close B2B relationships can form potential threats in challenging circumstances in the mid-term. In the long-term however these threats seem to be mitigated by the positive effects for the joint recovery of service failures caused by the challenging circumstances. This highlights the difference of service failure and recovery in B2B settings in comparison to B2C settings.

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